**Topic**: Nets/volume/surface area of prisms

**Question**: Find the surface area of the rectangular box.

length $10'$

width $4'$

height $5'$

**Answer choices**:

A $200\ \text{ft}^2$

B $220\ \text{ft}$

C $220\ \text{ft}^2$

D $180\ \text{ft}^2$

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**Solution**: C

The surface area of a rectangular box will be the sum of the surface area of its six sides:

| | |
|---|---|
| Top and bottom | length × width |
| Left and right | width × height |
| Front and back | length × height |

We'll use the formula

$$A = 2lw + 2wh + 2lh$$

Plugging in the dimensions of the box we've been given, we get

$$A = 2(10)(4) + 2(4)(5) + 2(10)(5)$$

$$A = 2(40) + 2(20) + 2(50)$$

$$A = 80 + 40 + 100$$

$$A = 220 \text{ ft}^2$$

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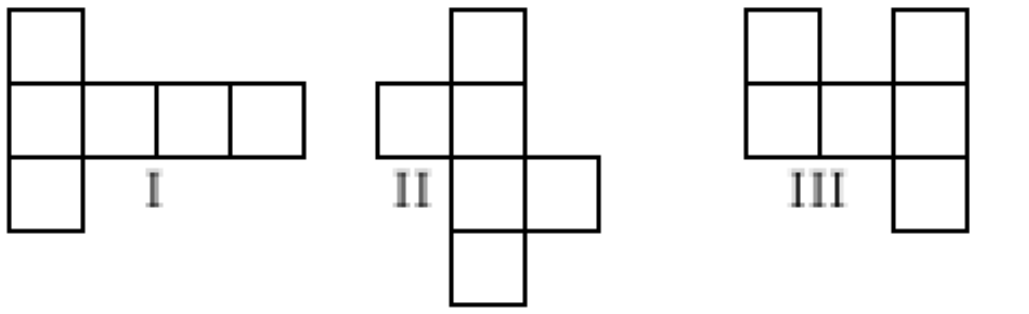
**Topic**: Nets/volume/surface area of prisms

**Question**: Which net(s) above would not work for a cube?




**Answer choices**:

A I

B II

C III

D All would work

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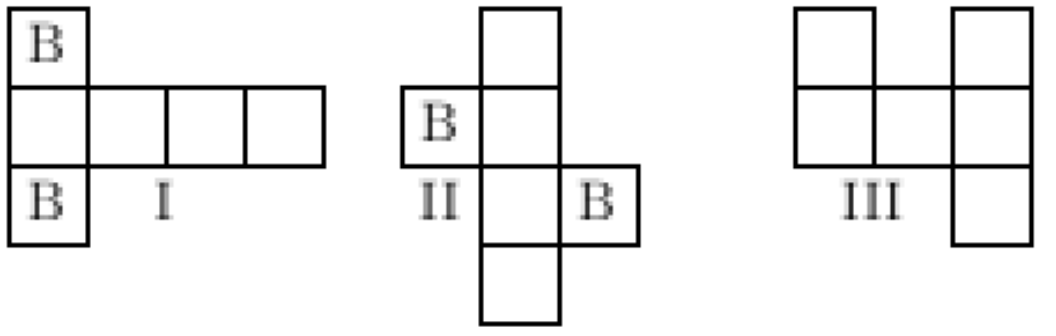
**Solution**: C

In I and II the row of four squares can be folded to make four sides of the cube.




Then the squares marked B can be folded to make the two bases.

In III there aren't four squares in a row, which makes it impossible to fold into a cube.

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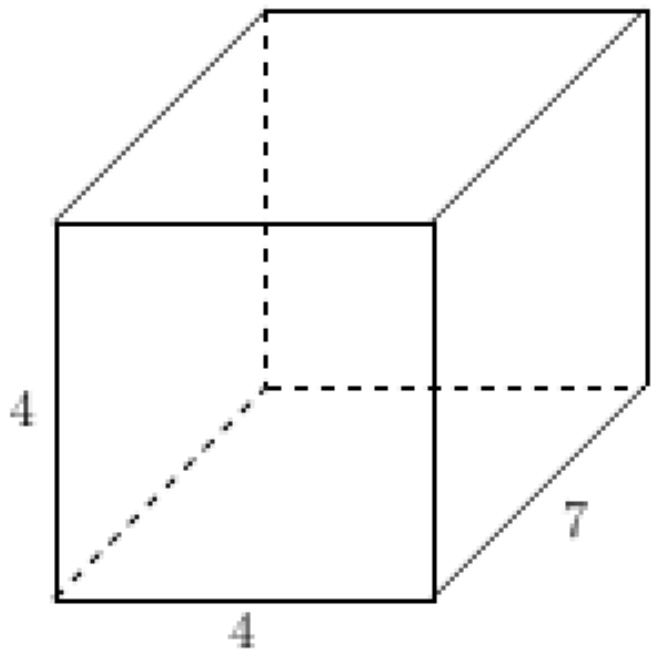
**Topic**: Nets/volume/surface area of prisms

**Question**: What is the surface area of the given right rectangular prism?




**Answer choices**:

A $88$ square units

B $112$ square units

C $144$ square units

D $160$ square units

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**Solution**: C

The surface area formula is

$$S = 2lw + 2hw + 2lh$$

And we've been given the dimensions

$$h = 4,\ w = 4,\ l = 7$$

So plugging these into the surface area formula, we get

$$S = (2 \cdot 7 \cdot 4) + (2 \cdot 4 \cdot 4) + (2 \cdot 7 \cdot 4)$$

$$S = 144$$

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